CLAIMS

What is claimed:

1.   A method comprising:

combining at least two separate user information packets into a
transmission packet by an information-processing unit; and

eliminating at least one power up cycle and one power down cycle by
transmitting the transmission packet.

2.   The method of claim 1, wherein a total elapsed time between the at least
two separate user information packets is greater than a portion of a
system quality of service (QoS) parameter allocated to the information-
processing unit.

3.   The method of claim 1, wherein a total elapsed time between the at least
two separate user information packets is less than a portion of a system
quality of service (QoS) parameter allocated to the information-processing
unit.

4.   The method of claim 1, wherein a total elapsed time between the at least
two separate user information packets is equal to a portion of a system
quality of service (QoS) parameter allocated to the information-processing
unit.

5.   The method of claim 1, wherein an end-to-end quality of service (QoS) requirement is maintained during said combining.

6.   The method of claim 1, wherein information contained in the user information packets are at least one of packet voice and packet data.

7.   An apparatus comprising:

      an information-processing unit to combine at least two separate user information packets into a transmission packet;

      wherein at least one power up cycle and one power down cycle is eliminated.

8.   The apparatus of claim 7, wherein information contained in the user information packets are at least one of packet voice and packet data.

9.   An apparatus comprising:

      a signal embodied in a propagation medium, wherein said signal represents the combination of at least two separate user information packets combined into a transmission packet by an information-processing unit.

10.   The apparatus of claim 9, wherein an end-to-end quality of service (QoS) requirement is maintained during the combination of the at least two separate user information packets.

11. The apparatus of claim 9, wherein a total elapsed time between the at least two separate user information packets is greater than a portion of a system quality of service (QoS) parameter allocated to an information-processing unit.

12. The apparatus of claim 9, wherein a total elapsed time between the at least two separate user information packets is less than a portion of a system quality of service (QoS) parameter allocated to an information-processing unit.

13. The apparatus of claim 9, wherein a total elapsed time between the at least two separate user information packets is equal to a portion of a system quality of service (QoS) parameter allocated to an information-processing unit.

14. A method comprising:
    grouping at least two separate user information packets; and
    combining the least two separate user information packets into a transmission packet by an information-processing unit.

15. The method of claim 14, wherein a total elapsed time between the at least two separate user information packets is greater than a portion of a

system quality of service parameter (QoS) allocated to the information-processing unit.

16. The method of claim 14, wherein a total elapsed time between the at least two separate user information packets is less than a portion of a system quality of service parameter (QoS) allocated to the information-processing unit.

17. The method of claim 14, wherein a total elapsed time between the at least two separate user information packets is equal to a portion of a system quality of service parameter (QoS) allocated to the information-processing unit.

18. The method of claim 14, wherein information contained in the user information packets are at least one of packet voice and packet data.

19. The method of claim 14, wherein an end-to-end quality of service (QoS) requirement is maintained.

20. The method of claim 14, wherein the quality of service (QoS) parameters are dynamically changed by at least one of the information-processing unit and information transmission system.

21. An apparatus comprising:

an information-processing unit to combine at least two separate user information packets into a transmission packet.

22. The apparatus of claim 21, wherein a total elapsed time between the at least two separate user information packets is greater than a portion of a system quality of service parameter (QoS) allocated to the information-processing unit.

23. The apparatus of claim 21, wherein a total elapsed time between the at least two separate user information packets is less than a portion of a system quality of service parameter (QoS) allocated to the information-processing unit.

24. The apparatus of claim 21, wherein a total elapsed time between the at least two separate user information packets is equal to a portion of a system quality of service parameter (QoS) allocated to the information-processing unit.

25. The method of claim 21, wherein an end-to-end quality of service (QoS) requirement is maintained.

26. The apparatus of claim 21, wherein information contained in the user information packets are at least one of packet voice and packet data.

27.   A computer readable medium containing executable program instructions, which when executed by a data processing system, cause the data processing system to perform the steps comprising:

combining at least two separate user information packets into a transmission packet by an information-processing unit.

28.   The computer readable medium of claim 27, wherein a total elapsed time between the at least two separate user information packets is greater than a portion of a system quality of service parameter (QoS) allocated to the information-processing unit.

29.   The computer readable media of claim 27, wherein a total elapsed time between the at least two separate user information packets is less than a portion of a system quality of service parameter (QoS) allocated to the information-processing unit.

30.   The computer readable media of claim 27, wherein a total elapsed time between the at least two separate user information packets is equal to a portion of a system quality of service parameter (QoS) allocated to the information-processing unit.

31.   The computer readable media of claim 27, wherein an end-to-end quality of service (QoS) requirement is maintained.

32.   A method comprising:

inputting a transmission packet of user information comprising at least two

separate user information packets into an information transmission

system; and

conveying the transmission packet through the information transmission

system.

33.   The method of claim 32, wherein a total elapsed time between the at least

two separate user information packets is greater than a portion of a

system quality of service (QoS) parameter allocated to an information-

processing unit.

34.   The method of claim 32, wherein the total elapsed time between the at

least two separate user information packets is less than the portion of the

system quality of service (QoS) parameter allocated to an information-

processing unit.

35.   The method of claim 32, wherein the total elapsed time between the at

least two separate user information packets is equal to the portion of the

system quality of service (QoS) parameter allocated to an information-

processing unit.

36.   The method of claim 32, wherein information contained in the user

information packets are at least one of packet voice and packet data.

37.   The method of claim 32, wherein the quality of service (QoS) parameter for the information transmission system is maintained.

38.   The method of claim 32, wherein an end-to-end quality of service (QoS) requirement is maintained.

39.   The method of claim 32, wherein the quality of service (QoS) parameters are dynamically changed by at least one of the information-processing unit and the information transmission system.

40.   An apparatus comprising:

an information transmission system to receive and convey a transmission packet of user information comprising at least two separate user information packets.

41.   The apparatus of claim 40, wherein a total elapsed time between the at least two separate user information packets is greater than a portion of a system quality of service (QoS) parameter allocated to an information-processing unit.

42.   The apparatus of claim 40, wherein the total elapsed time between the at least two separate user information packets is less than the portion of the

system quality of service (QoS) parameter allocated to the information-processing unit.

43.   The apparatus of claim 40, wherein the total elapsed time between the at least two separate user information packets is equal to the portion of the system quality of service (QoS) parameter allocated to the information-processing unit.

44.   The apparatus of claim 40, wherein information contained in the user information packets are at least one of packet voice and packet data.

45.   The apparatus of claim 40, wherein an end-to-end quality of service (QoS) requirement is maintained.

46.   A computer readable medium containing executable program instructions, which when executed by a data processing system, cause the data processing system to perform a method comprising:

inputting a transmission packet of user information comprising at least two separate user information packets into an information transmission system; and

conveying the transmission packet through the information transmission system;

47. The computer readable medium of claim 46, wherein a total elapsed time between the at least two separate user information packets is greater than a portion of a system quality of service (QoS) parameter allocated to an information-processing unit.

48. The computer readable medium of claim 46, wherein a total elapsed time between the at least two separate user information packets is less than a portion of a system quality of service (QoS) parameter allocated to an information-processing unit.

49. The computer readable medium of claim 46, wherein a total elapsed time between the at least two separate user information packets is equal to a portion of a system quality of service (QoS) parameter allocated to an information-processing unit.

50. A method comprising:

receiving, from an information transmission system, a transmission packet of user information, comprising at least two separate user information packets, into an information-processing unit; and

processing at least one of the transmission packet and the at least two separate user information packets.

51. The method of claim 50, wherein a total elapsed time between the at least two separate user information packets is greater than a portion of a

system quality of service parameter (QoS) allocated to an information-processing unit that formed the transmission packet.

52.   The method of claim 50, wherein a total elapsed time between the at least two separate user information packets is less than a portion of a system quality of service parameter (QoS) allocated to an information-processing unit that formed the transmission packet.

53.   The method of claim 50, wherein a total elapsed time between the at least two separate user information packets is equal to a portion of a system quality of service parameter (QoS) allocated to an information-processing unit that formed the transmission packet.

54.   The method of claim 50, wherein information contained in the user information packets are at least one of packet voice and packet data.

55.   The method of claim 50, wherein an end-to-end QoS requirement is maintained.

56.   A computer readable medium containing executable program instructions, which when executed by a data processing system, cause the data processing system to perform a method comprising:

receiving, from an information transmission system, a transmission packet of user information, comprising at least two separate user information packets, into an information-processing unit; and

processing at least one of the transmission packet and the at least two separate user information packets.

57. The computer readable medium of claim 56, wherein a total elapsed time between the at least two separate user information packets is greater than a portion of a system quality of service parameter allocated to an information-processing unit that formed the transmission packet.

58. The computer readable medium of claim 56, wherein a total elapsed time between the at least two separate user information packets is less than a portion of a system quality of service parameter allocated to an information-processing unit that formed the transmission packet.

59. The computer readable medium of claim 56, wherein a total elapsed time between the at least two separate user information packets is not equal to a portion of a system quality of service parameter allocated to an information-processing unit that formed the transmission packet.

60. The method of claim 50, wherein the QoS parameters are dynamically changed by at least one of the information-processing unit and the information transmission system.

61. A computer readable medium containing executable program instructions, which when executed by a data processing system, cause the data processing system to perform the steps comprising:

combining at least two separate user information packets into a transmission packet by an information-processing unit; and

eliminating at least one power up cycle and one power down cycle by transmitting the transmission packet.

62. The computer readable medium of claim 61, wherein a total elapsed time between the at least two separate user information packets is greater than a portion of a system quality of service (QoS) parameter allocated to the information-processing unit.

63. The computer readable medium of claim 61, wherein a total elapsed time between the at least two separate user information packets is less than a portion of a system quality of service (QoS) parameter allocated to the information-processing unit.

64. The computer readable medium of claim 61, wherein a total elapsed time between the at least two separate user information packets is equal to a portion of a system quality of service (QoS) parameter allocated to the information-processing unit.